

ME 8: Containerization and Docker

Activity #1

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I. Pulling an image

```
C:\Users\tingc>docker images
REPOSITORY    TAG        IMAGE ID      CREATED       SIZE

C:\Users\tingc>docker pull ubuntu:16.04
16.04: Pulling from library/ubuntu
80bce60046fa: Pull complete
55a738a15540: Pull complete
e19cf0706c62: Pull complete
de4cdd6c27d1: Pull complete
Digest: sha256:9775877f420d453ef790e6832d77630a49b32a92b7bedf330adf4d8669f6600e
Status: Downloaded newer image for ubuntu:16.04
docker.io/library/ubuntu:16.04

C:\Users\tingc>docker images
REPOSITORY    TAG        IMAGE ID      CREATED       SIZE
ubuntu        16.04      9ff95a467e45  3 weeks ago   135MB

C:\Users\tingc>docker pull ubuntu:16.10
16.10: Pulling from library/ubuntu
dca7be20e546: Pull complete
40bca54f5968: Pull complete
61464f23390e: Pull complete
d99f0bcd5dc8: Pull complete
120db6f90955: Pull complete
Digest: sha256:8dc9652808dc091400d7d5983949043a9f9c7132b15c14814275d25f94bca18a
Status: Downloaded newer image for ubuntu:16.10
docker.io/library/ubuntu:16.10

C:\Users\tingc>docker images
REPOSITORY    TAG        IMAGE ID      CREATED       SIZE
ubuntu        16.04      9ff95a467e45  3 weeks ago   135MB
ubuntu        16.10      7d3f705d307c  3 years ago   107MB

C:\Users\tingc>docker rmi 7d3f705d307c
Untagged: ubuntu:16.10
Untagged: ubuntu@sha256:8dc9652808dc091400d7d5983949043a9f9c7132b15c14814275d25f94bca18a
Deleted: sha256:7d3f705d307c7c225398e04d4c4f8512f64eb8a65959a1fb4514dfde18a047e7
Deleted: sha256:d9db289b9342d9617596cd6ee3bba988629e24d9afa5db4e4b0e4e491c65007d
Deleted: sha256:a87725e8597b97f2399bc3aa50b0e2eec903b8ce19055668d3befb012918205c
Deleted: sha256:38cf10a2801529348366953e9b933d3524360dedc91d3e4d5d7f941da0c973c9
Deleted: sha256:61172966249d43026dbd017eec3a9575e37bddf8a269a9f09ecb559d7bfe7fef
Deleted: sha256:57145c01eb80040fdd0a24cde20af4788605b49593188d4f7efab099af89a08e

C:\Users\tingc>docker images
REPOSITORY    TAG        IMAGE ID      CREATED       SIZE
ubuntu        16.04      9ff95a467e45  3 weeks ago   135MB
```

II. Running our container

```
C:\Users\tingc>docker run ubuntu:16.04 /bin/echo 'Hello world!'
'Hello world!'

C:\Users\tingc>docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS        NAMES
9e895509dc3c   ubuntu:16.04  "/bin/echo 'Hello wo..."  52 seconds ago  Exited (0) 49 seconds ago          affectionate_rosalind

C:\Users\tingc>docker run ubuntu:16.04 /bin/bash

C:\Users\tingc>docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS        NAMES
7edd7e97062e   ubuntu:16.04  "/bin/bash"             30 seconds ago  Exited (0) 27 seconds ago          naughty_volhard
9e895509dc3c   ubuntu:16.04  "/bin/echo 'Hello wo..."  2 minutes ago   Exited (0) 2 minutes ago          affectionate_rosalind

C:\Users\tingc>docker run -it ubuntu:16.04 /bin/bash
root@835b7ec33056:/# pwd
/
root@835b7ec33056:/# ls
bin  boot  dev  etc  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
root@835b7ec33056:/# exit
exit

C:\Users\tingc>docker run -d ubuntu:16.04 /bin/sleep 3600
39f5aed20cb28619854cd79ca8d9842d4b93641d28f9d0eb8274b2c8633a3588

C:\Users\tingc>docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS        NAMES
39f5aed20cb2   ubuntu:16.04  "/bin/sleep 3600"       11 seconds ago  Up 8 seconds          dreamy_wu

C:\Users\tingc>docker exec -it be7 /bin/bash
Error: No such container: be7

C:\Users\tingc>docker exec -it 39f /bin/bash
root@39f5aed20cb2:/# ps aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1   0.0  0.0   4372   756 ?        Ss   01:55   0:00 /bin/sleep 3600
root         7   0.1  0.0  18240  3276 pts/0    Ss   01:56   0:00 /bin/bash
root        17   0.0  0.0   34420  2896 pts/0    R+   01:57   0:00 ps aux
root@39f5aed20cb2:/# exit
exit

C:\Users\tingc>docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS        NAMES
39f5aed20cb2   ubuntu:16.04  "/bin/sleep 3600"       2 minutes ago  Up 2 minutes          dreamy_wu

C:\Users\tingc>docker stop 39f
39f

C:\Users\tingc>docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS        NAMES
39f5aed20cb2   ubuntu:16.04  "/bin/sleep 3600"       3 minutes ago  Exited (137) 10 seconds ago          dreamy_wu
835b7ec33056   ubuntu:16.04  "/bin/bash"             5 minutes ago  Exited (0) 5 minutes ago          sad_tereshkova
7edd7e97062e   ubuntu:16.04  "/bin/bash"             7 minutes ago  Exited (0) 7 minutes ago          naughty_volhard
9e895509dc3c   ubuntu:16.04  "/bin/echo 'Hello wo..."  9 minutes ago  Exited (0) 9 minutes ago          affectionate_rosalind
```

III. Removing containers

```
C:\Users\tingc>docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS        NAMES
39f5aed20cb2   ubuntu:16.04  "/bin/sleep 3600"       3 minutes ago  Exited (137) 10 seconds ago          dreamy_wu
835b7ec33056   ubuntu:16.04  "/bin/bash"             5 minutes ago  Exited (0) 5 minutes ago          sad_tereshkova
7edd7e97062e   ubuntu:16.04  "/bin/bash"             7 minutes ago  Exited (0) 7 minutes ago          naughty_volhard
9e895509dc3c   ubuntu:16.04  "/bin/echo 'Hello wo..."  9 minutes ago  Exited (0) 9 minutes ago          affectionate_rosalind

C:\Users\tingc>docker rm 39f
39f

C:\Users\tingc>docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS        NAMES
835b7ec33056   ubuntu:16.04  "/bin/bash"             14 minutes ago  Exited (0) 13 minutes ago          sad_tereshkova
7edd7e97062e   ubuntu:16.04  "/bin/bash"             16 minutes ago  Exited (0) 16 minutes ago          naughty_volhard
9e895509dc3c   ubuntu:16.04  "/bin/echo 'Hello wo..."  17 minutes ago  Exited (0) 17 minutes ago          affectionate_rosalind
```

```
C:\Users\tingc>docker rm 8
8
```

```
C:\Users\tingc>docker rm 7ed
7ed
```

```
C:\Users\tingc>docker rm 9e8
9e8
```

```
C:\Users\tingc>docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS        NAMES
```

```
C:\Users\tingc>docker run --rm ubuntu:16.04 /bin/echo 'Hello and goodbye!'
'Hello and goodbye!'
```

```
C:\Users\tingc>docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS        NAMES
```